THE MARKET GAGE DOLLAR

A Unit of Constant Purchasing Power

The Market Gage plan for stabilizing the purchasing power of the dollar was originated in 1896. It was first published in brief form in a Minnesota country newspaper. In the years following it was brought to the attention of various economists and educators, including (in 1909) a university president, but it did not become widely known.[1] Its author still believes that if adopted it would prove to be the simple and final solution of a most difficult problem; that it would at once and without the slightest jar to business end all perceptible fluctuations of the commodity price level. Tendencies toward change being at once detected and offset, price level movements would be so slight as to be visible only through the microscope of a composite index number. A brief statement of the plan is here submitted.

As general purchasing power varies inversely with general market prices, the guide in steadying it must be a gage of the level of prices on the general market. And this general market must be the wholesale market in which buying as well as selling is a matter of business. Under a better system of distribution, retail prices would conform more closely to wholesale costs; but, even now, we may justly assume that wholesale price movements are fairly representative of retail changes and that market importance on the wholesale market spells also market importance in the retail trade.

Most of the price index numbers hitherto constructed have been mere arithmetic averages; several have made some attempt at weighting, but none has fully taken into account the distribution, by volume, of price changes.[2] Now, a measure of general

[1] This plan was brought to the attention of the department of economics of the University of North Dakota in February, 1916. A statement was submitted to the editor of the *Quarterly Journal* of the University of North Dakota in December of the following year and appeared in the January, 1918, number of that magazine, vol. VIII, no. 2.

[2] Both the Compensated Dollar and the Market Gage scheme are based upon the idea of controlling the price level by alterations in the gold content of the dollar but the two structures differ radically. Professor Fisher describes his plan as "in essence, a simple combination of seigniorage with index numbers." His seigniorage device is supplemented by a provision for partial weight adjustments to be made monthly. Professor Fisher views the choice of an index

purchasing power being a measure of the value of goods in actual trade transactions, in the quantities actually sold and bought, the schedule should list not equal amounts of each commodity but an amount of each proportioned to the quantity of each sold during the year; for the yearly total is but a multiple of the sales during an average day, and from the yearly total of each the average quantity of each sold during any shorter period, or simultaneously on sale, may be reckoned. The Market Gage schedule, therefore, lists not certain commodities but all the goods on the wholesale market, with each shown as a decimal part of the whole, thus giving to each its proper weighting. The money unit is steadied by holding it at the par stage 1—increasing its gold content when the market level shows a tendency to rise and lowering it when the Market Gage signals a decline.

Before constructing a schedule it is necessary to ascertain the total annual trade of the country and the trade in each of the items making up that total. It is next necessary to decide what market or markets shall furnish prices for each item or group. Commodities may be quoted either at their primary market or at their principal point of distribution. That only a portion of the whole quantity of a commodity is distributed from one point (and that wholesale prices only are considered) is not material so long as the changes in the price-current are closely representative of the average price changes throughout the country. Where necessary, prices can be averaged between two or more markets.

To construct the schedule (as on p. 582), list first the major items, the trade in which amounts to not less than .005 of the whole, stating the trade in each commodity in millions of dollars (column A). Show in decimals (column B) the relation the trade in that commodity bears to the whole volume of trade. Indicate after each major item the kind or grade which it is purposed to use as a price criterion and the market selected to furnish its prices. Next gather into related groups all other commodities and list these groups below the items already set down, showing (as in the case of the major items) the amount of trade in each, its relation to the total trade, and its price grade and market.

number as little more than "a technical dispute between experts" and attaches little importance to weighting. The M. G. plan provides an index number based upon the total wholesale trade, with proper weighting and frequent revisions of the schedules, and maintains price level stability by daily weight adjustments of the bullion dollar.

After each price grade give (column C) in decimals of a hundredweight the price equivalent of the dollar, *i. e.*, the quantity of each that sells for a dollar on the day for which the schedule is constructed; in column D, the day's market price (per hundredweight unless otherwise stated) of the price grade of each commodity or group; in column E, the present value in dollars and decimals of the quantity named in column C. This number in column E (which is the product of the figures in column C multiplied by those in column D) is the index number for the day of the commodity to which it refers. The Market Gage components (column X) are the products of the figures in column E multiplied by the decimals in column B. Their sum gives the Market Gage for the day. As the quantity given in column C is just one dollar's worth of each item, the present value in dollars in column E will, at the beginning of each day, be 1 in each entry; and the composite index number or Market Gage calculated therefrom will necessarily be 1. But market changes reflected in column D will affect present values in column E (see revision columns) and produce a corresponding change in column X, the footing of which is the Market Gage. As no item or group will be less than .005 of the whole and many of the major items will be considerably more, the schedule should contain less than 100 entries. Should a longer list seem desirable, items and groups down to .001 may be separately listed. The smaller and more homogeneous the group, the more accurately will its price changes be indicated by those of its price criterion.

It is a part of the Market Gage plan that all gold coins be retired: that all currency (paper and token coins) be redeemable in bar gold at published quotations of the Treasury Department, the redemption rate for each coming day being found by multiplying the then current rate, stated in "grams-d'or," by the Market Gage figures, which are reciprocal of the current dollar value. The Market Gage at the beginning registering 1, the redemption quotation would be 1.6718 "grams-d'or" (25.8 grains gold). Should market prices in dollars of this weight rise during the day to 1.0005 (see revision columns), showing a decrease of about .0005 in purchasing power of the unit, the redemption rate for the following day would be raised to 1.6726 g-o. This would bring the price level back to the par mark. Should the market, now quoted in dollars equal to 1.6726 g-o., fall off 1/50th of 1 per cent, the Market Gage would read .9998 and the Treasury

MARKET GAGE SCHEDULE, FIRST DAY[1]
Unit = 1.6718 Grams-d'or (25.8 grains gold)

A	B			C	D	E	X	D revised[2]	E revised[2]	X revised[2]
In millions of dollars	Market importance	Commodity or group	Price, grade and market	Dollar equivalent	Market price	Commodity index	Market gage components	Market price	Commodity index	Market gage components
2,000	.050	Sugar	Granul/Chi	.1799	5.56	1.	.050	5.50	.9894	.04947
1,740	.0435	Corn	Contr/Chi	.7692	1.30	1.	.0435	1.29	.9923	.04365
600	.015	Spr. Wht.	1, Nor/Mpls	.5882	1.70	1.	.015	1.70	1.0000	.01500
760	.019	Cotton	Middlg/N.O.	.0851	11.75	1.	.019	11.90	1.0127	.01924
600	.015	Iron-stl.	Pg. ir/Pitts.	.1418	7.05	1.	.015	7.10	1.0068	.01512
34,300	.8575						.8575			.85802
40,000	1.00	(All other goods to be listed herein and extended as above)					1.00 (M.G. at opening)			1.0005 (M.G. at close)

MARKET GAGE SCHEDULE, SECOND DAY
Unit = 1.6726 Grams-d'or[3]

2,000	.050	Sugar	Granul/Chi	.1816	5.50	1.	.050	5.60	1.017	.05085
1,740	.0435	Corn	Contr/Chi	.7752	1.29	1.	.0435	1.25	.967	.04251
600	.015	Spr. Wht.	1, Nor/Mpls	.5882	1.70	1.	.015	1.80	1.05876	.01588
760	.019	Cotton	Middlg/N.O.	.0840	11.90	1.	.019	11.00	.924	.01756
600	.015	Iron-stl.	Pg. ir/Pitts.	.1408	7.10	1.	.015	7.00	.9856	.01478
34,300	.8575						.8575			.85842
40,000	1.00	(All other goods to be listed herein and extended as above)					1.00 (M.G. at opening)			.9998 (M.G. at close)

The redemption rate for the third day is 1.6726 x .9998, or 1.6723 grams-d'or.

[1] To save space only a few price series are here listed, the greater number of items and groups being lumped together in one entry to make up the balance of the 40 billions (assumed) annual trade. As one set of weights and prices will serve as well as another to illustrate method of construction, no attempt is made to use actual statistics. The current value-equivalent of the dollar (column C) is shown in decimals of a hundredweight of each commodity. Prices in column D are per hundredweight unless otherwise stated.

[2] Revision columns show changes in D reflected in E and X. The new Market Gage for the close of the day reads 1.0005, showing a rise of .0005.

[3] To find the new redemption rate multiply the current rate, 1.6718 grams-d'or, by 1.0005, which gives 1.6726, which is the rate necessary to bring the market level back to the 1 stage. In dollars equal to 1.6726 grams of gold the prices for the second day are measured. The weights in column C are now adjusted to the altered prices.

Department would lower the quotation to 1.6723 to bring the level back to 1. Each day, after the new redemption rate had been found, the dollar equivalents (column C) would be adjusted to current price quotations. Once a year, or as often as the necessary trade data could be obtained, the entire schedule would be revised.

I have assumed that each rate adjustment would at once restore to the dollar its normal purchasing power. In practice, it is not likely that the prices of all things would be sufficiently fluid to readjust themselves immediately to the new valuer, for custom and infrequently published price lists would retard the repricing of some minor items. But this slight lag of prices could not appreciably affect the market level in one day, and it could not escape correction, for the Market Gage of the following day would take it up.

The Market Gage dollar would be a national dollar. A world standard of deferred payments, other than some compromise between national standards, is hardly attainable; for a measure of purchasing power for all countries must be a less accurate one than a measure established for one country. Exchange values of the various goods, owing to transportation costs and varying demands, cannot bear exactly the same relation to each other in widely separate markets. Neighboring countries with common free markets may have a common standard, but between countries not so situated there will perhaps always be foreign exchange, though with the cheapening and speeding up of transportation and the perfecting of means of communication with distant markets the supply-demand levels of goods on the various markets will vary less and this will tend to stabilize foreign exchange.

In the absence of an ideal world standard a stated weight of gold may still be used as an international money unit. The writer suggests, as a unit most acceptable internationally and as being in harmony with the Market Gage plan, the "gram-d'or," one grain of gold bullion, nine-tenths fine, divisible into 100 "cents-d'or" and 1,000 "mils-d'or." At our present mint rate the gram-d'or would be worth a trifle more than 57 cents, somewhat more than the Mexican dollar, the yen, the ruble, the milreis, and so forth. With this plan in effect, the exchange rates between the gram-d'or and the dollar would be shown each day by the redemption quotation. The gram-d'or would be the international trade money, at least until all traders had assimilated the knowledge

that they were not being wronged by adjustments of the money unit, adjustments having for their object and net result the stabilization of the unit's purchasing power. Foreign bills of exchange and other international paper would be drawn in grams-d'or, with allowance, if necessary, for cost of gold transportation and credit conditions. Long-time bills, however, like other deferred payments, should be subject to adjustment by the standard of one country or the other, in order to offset changes in the purchasing power of a gram of gold.

The gram-d'or would bridge the gap between the moneys of the different nations. Values of the various units would be expressed in grams-d'or and decimals thereof: United States, 1.6718; Great Britain, 8.2082; France, .3626; and so forth. To translate United States money into French money, one would divide the quotation 1.6718 by the quotation .3626,—the quotient, 4.61, being the amount in francs and centimes. And to change United States money into British money, one would divide 1.6718 by 8.2082,—the result, .2367, being the British equivalent in decimals of a pound sterling. Of course unless British money were modernized by decimal division of its unit, there would still remain some old-time exercises in compound numbers, reducing the decimals of a pound sterling to shillings and pence; but between countries having decimal (or centesimal) money systems the translation would be simple.

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